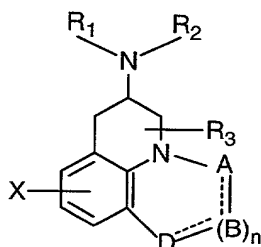


CLAIMS

WHAT IS CLAIMED IS:

1. A method of treating sexual disturbances in a human who is in need of such treatment which comprises administering a sexually therapeutically effective amount of a compound
- 5 of the formula (A)



where

R₁, R₂ and R₃ are the same or different and are:

- 10 -H,
 C₁-C₆ alkyl,
 C₃-C₅ alkenyl,
 C₃-C₅ alkynyl,
 C₃-C₅ cycloalkyl,
 C₄-C₁₀ cycloalkyl,

15 phenyl substituted C₁-C₆ alkyl,
 -NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to
 produce pyrrolidiyl, piperidiny, morphoniny, 4-methyl piperaziny or imidazolyl;

X is:

- 20 -H,
 C₁-C₆ alkyl,
 -F, -Cl, -Br, -I,
 -OH,
 C₁-C₆ alkoxy,
 cyano,

25 carboxamide,
 carboxyl,
 (C₁-C₆ alkoxy)carbonyl,

A is:

CH,

CH₂,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

CHCH₃,

C=O,

5

C=S,

C-SCH₃,

C=NH,

C-NH₂,

C-NHCH₃,

10

C-NHCOOCH₃,

C-NHCN,

SO₂,

N;

B is:

15

CH₂,

CH,

CH-(halogen) where halogen is as defined above,

C=O,

N,

20

NH,

N-CH₃,

D is:

CH,

CH₂,

25

CH-(halogen) where halogen is as defined above,

C=O,

O,

N,

NH,

30

N-CH₃;

and n is 0 or 1, and where ----- is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

5 D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂; and

10 B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

15 D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

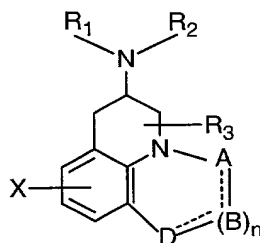
A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

20 2. A method of treating sexual disturbances according to claim 1 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

3. A method of inducing mating a non-human mammal which comprises administering a
25 sexually mating amount of a compound of the formula (A)



where

R₁, R₂ and R₃ are the same or different and are:

-H,

C₁-C₆ alkyl,

C₃-C₅ alkenyl,

C₃-C₅ alkynyl,

C₃-C₅ cycloalkyl,

5 C₄-C₁₀ cycloalkyl,

phenyl substituted C₁-C₆ alkyl,

-NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidiny, morphoniny, 4-methyl piperaziny or imidazolyl;

X is:

10 -H,

C₁-C₆ alkyl,

-F, -Cl, -Br, -I,

-OH,

C₁-C₆ alkoxy,

15 cyano,

carboxamide,

carboxyl,

(C₁-C₆ alkoxy)carbonyl,

A is:

20 CH,

CH₂,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

CHCH₃,

C=O,

25 C=S,

C-SCH₃,

C=NH,

C-NH₂,

C-NHCH₃,

30 C-NHCOOCH₃,

C-NHCN,

SO₂,

N;

B is:

CH₂,

CH,

CH-(halogen) where halogen is as defined above,

C=O,

5

N,

NH,

N-CH₃,

D is:

CH,

10

CH₂,

CH-(halogen) where halogen is as defined above,

C=O,

O,

N,

15

NH,

N-CH₃;

and n is 0 or 1, and where --- is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,

20

C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,

NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

25

D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,

C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-

30

CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

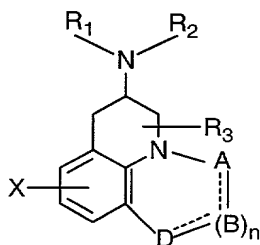
A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

B is CH, N; then

5 D is CH, N; and pharmaceutically acceptable salts thereof.

4. A method of inducing mating according to claim 3 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

5. A method of treating a sexual deficiency state in a human who has epilepsy,
10 craniopharyngioma, hypogonadism or who has had a hysterectomy/oophorectomy,
hysterectomy or oophorectomy which comprises administering a sexually therapeutically
effective amount of a compound of the formula (A)



where

15 R₁, R₂ and R₃ are the same or different and are:

-H,

C₁-C₆ alkyl,

C₃-C₅ alkenyl,

C₃-C₅ alkynyl,

20 C₃-C₅ cycloalkyl,

C₄-C₁₀ cycloalkyl,

phenyl substituted C₁-C₆ alkyl,

-NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to
produce pyrrolidyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

25 X is:

-H,

C₁-C₆ alkyl,

-F, -Cl, -Br, -I,

-OH,

C₁-C₆ alkoxy,
 cyano,
 carboxamide,
 carboxyl,
 (C₁-C₆ alkoxy)carbonyl,

5

A is:

CH,
 CH₂,
 CH-(halogen) where halogen is -F, -Cl, -Br, -I,

10

CHCH₃,
 C=O,
 C=S,
 C-SCH₃,
 C=NH,
 C-NH₂,
 C-NHCH₃,
 C-NHCOOCH₃,
 C-NHCN,

15

SO₂,

20

N;

B is:

CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 C=O,
 N,
 NH,
 N-CH₃,

25

D is:

CH,
 CH₂,
 CH-(halogen) where halogen is as defined above,
 C=O,
 O,

30

N,
 NH,
 N-CH₃;

and n is 0 or 1, and where ----- is a single or double bond, with the provisos:

5 (1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH₃;

10 (2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then D is CH, N;

(3) that when n is 1, and

15 A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

20 A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and B is CH, N; then

D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

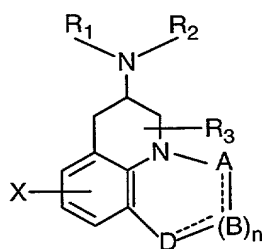
25 B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

6. A method of treating a sexual deficiency state according to claim 5 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

30

7. A method of increasing sexual desire, interest or performance in a human who is desirous thereof which comprises administering a sexually useful effective amount of a compound of the formula (A)



where

R_1 , R_2 and R_3 are the same or different and are:

- H,
- 5 C_1 - C_6 alkyl,
- C_3 - C_5 alkenyl,
- C_3 - C_5 alkynyl,
- C_3 - C_5 cycloalkyl,
- C_4 - C_{10} cycloalkyl,
- 10 phenyl substituted C_1 - C_6 alkyl,
- NR_1R_2 where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidiny, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

- H,
- 15 C_1 - C_6 alkyl,
- F, -Cl, -Br, -I,
- OH,
- C_1 - C_6 alkoxy,
- cyano,
- 20 carboxamide,
- carboxyl,
- (C_1 - C_6 alkoxy)carbonyl,

A is:

- CH,
- 25 CH_2 ,
- CH-(halogen) where halogen is -F, -Cl, -Br, -I,
- $CHCH_3$,
- $C=O$,
- $C=S$,

C-SCH₃,

C=NH,

C-NH₂,C-NHCH₃,5 C-NHCOOCH₃,

C-NHCN,

SO₂,

N;

B is:

10 CH₂,

CH,

CH-(halogen) where halogen is as defined above,

C=O,

N,

15 NH,

N-CH₃,

D is:

CH,

CH₂,

20 CH-(halogen) where halogen is as defined above,

C=O,

O,

N,

NH,

25 N-CH₃;

and n is 0 or 1, and where --- is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂;

30 then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH₃;

(2) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂; and

5 B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

10 D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

15 8. A method of increasing sexual desire, interest or performance in a human who is desirous thereof according to claim 7 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

9. (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione and
20 pharmaceutically acceptable salts thereof.

10. A compound according to claim 9 which is (5R)-5-(Methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione malate.

25